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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,992	12/21/2001	Guenael T. Strutt	42517	8150

8968 7590 03/14/2005

GARDNER CARTON & DOUGLAS LLP  
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CHICAGO, IL 60606

EXAMINER

PHAM, TUAN

ART UNIT PAPER NUMBER

2643

DATE MAILED: 03/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/023,992	STRUTT, GUENAE T.	
	<b>Examiner</b>	<b>Art Unit</b>	
	TUAN A PHAM	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6 and 8 is/are rejected.
- 7) ☒ Claim(s) 3 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6/10/2002</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on 06/10/2002 has been considered by Examiner and made of record in the application file.

### ***Claim Objections***

2. Claims 6-7 are objected to because of the following informalities: Claims 6-7 cannot depend on by itself. Examiner assumes that claim 6 depends on claim 5 and claim 7 depends on claim 6. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-2, 4, 5-6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudhrethaya et al. (U.S. Patent No.: 6,606,349, hereinafter, "Kudhrethaya.") in view of Wilcox et al. (U.S. Patent No.: 6,643,320, hereinafter, "Wilcox").**

**Regarding claims 1 and 5**, Kudhrethaya teaches a system and method for enabling a node, adapted for use in a wireless communications network, to detect a data signal in a received signal containing noise (see figure 6), the system comprising:

a first correlation circuit, adapted to correlate the received signal with a first reference sequence, and output an intermediate correlated signal (see figure 6, correlator 607, received signal 603, reference sequence i.e., PN code 605, col.9, ln.32-67);

a second correlation circuit, adapted to correlate the intermediate correlated signal with a second reference sequence, and output a correlated signal (see figure 6, correlator 617, received signal 603, reference sequence i.e., PN code 605, col.9, ln.32-67);

a threshold generating circuit, adapted to generate a threshold value of the intermediate correlated signal over time (see figure 6, threshold 621, col.9, ln.32-67);  
and

a comparison circuit, adapted to compare the correlated signal to the threshold value to determine whether the received signal includes the data signal (see figure 6, comparator 623, col.9, ln.58-67, col.10, ln.1-8).

It should be noticed that Kudhrethaya fails to teach an adaptive threshold circuit based on an estimation of the variance. However, Wilcox teaches such features (see figure 2, variable level threshold 29, 30, col.7, ln.14-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Wilcox to Kudhrethaya, in

order to improve the signal strength in the receiver as suggested by Wilcox at column 7, lines 30-47.

**Regarding claims 2 and 6**, Wilcox further teaches a method and system the threshold generating circuit includes a variance estimation circuit, adapted to average the intermediate correlated signal over a period of time and output an estimate of the variance signal; and a scaling circuit, adapted to mathematically combine the estimate of the variance signal with a constant to output of threshold value (see figure 2, variable level threshold 29, 30, micro processor 12, col.4, ln.55-62, col.5, ln.53-67, col.7, ln.13-30).

**Regarding claims 4 and 8**, Kudhrethaya further teaches a system wherein the comparison circuit outputs a detection signal indicating detection of the data signal in the received signal when a level of the correlated signal is at least equal to the threshold value; and the comparison circuit outputs a non-detection signal indicating non-detection of the data signal in the received signal when a level of the correlated signal is less than the threshold value (see figure 6, comparator 633, col.10, ln.1-8).

#### ***Allowable Subject Matter***

5. Claims 3 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In order to expedite the prosecution of this application, the applicants are also requested to consider the following references. Although Ng et al. (U.S. Patent No. 6,847,676), Ottosson et al. (U.S. Patent No. 6,683,924), Woolley (U.S. Patent No. 6,229,475), and Chen et al. (U.S. Patent No. 6,424,673) are not applied into this Office Action; they are also called to Applicants attention. They may be used in future Office Action(s). These references are also concerned for supporting the system and method for receiver DS-CDMA signals.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (703) 305-4987. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz can be reached on (703) 305-4708 and

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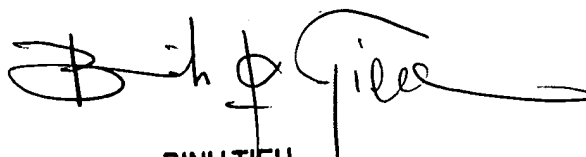
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Art Unit 2643  
March 9, 2005  
Examiner

Tuan Pham



BINH TIEU  
PRIMARY EXAMINER